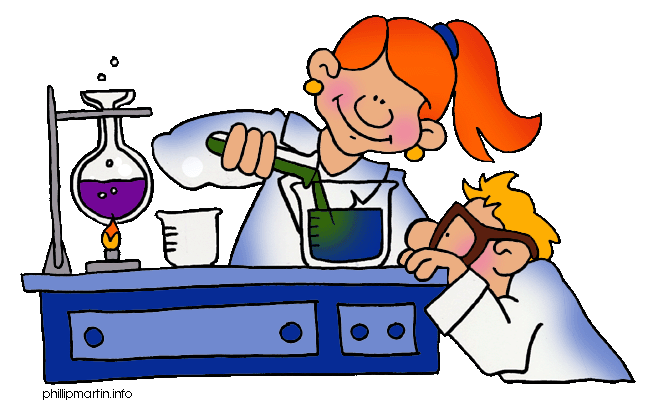
The Great Balloon Race

Your job in this task is to write a complete lab report following the handout provided to you or the lab report in Appendix 3 on page 189 of the science text. This lab report will address the lab called “The great balloon race” on page 89 of your science text. You will be given 3 bath bombs to use for this lab in order to find the best combination of conditions that will make the balloon blow up the fastest. After this lab is complete we will use one more bath bomb per group to perform the great balloon race.

1. Brainstorm some ways that you might be able to speed up the rate of reaction.
2. Write a lab report about this investigation
   1. *Title*
   2. *Research question*
   3. *Fair Testing*
   4. *Hypothesis*
   5. *Plan including materials and method*
   6. *Results including table and graph*
   7. *Conclusion and explanation*
   8. *Evaluation*
3. For your **conclusion and explanation** please address the following points
   1. Discuss what your results show you about your original research question. Discuss this carefully, thoughtfully, imaginatively and in depth.
   2. Was your hypothesis correct? If so, what knowledge enabled you to make this prediction. If not, why was your prediction wrong.
4. For your **evaluation** please answer the following questions.
   1. How well do you think your investigation went? Did you have any problems you dealt with while carrying out the experiment?
   2. What errors where there in your lab. Was it truly a fair test?
   3. How could you improve your experiment next time?



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| **Criterion D – Scientific Inquiry** | | |
| **Achievement Level** | Descriptor | Task-Specific Descriptor |
| **0** | The student does not reach a standard described by any of the descriptors below. | You do not reach a standard described by any of the descriptors below. |
| **1-2** | The student is able to make some attempt to suggest a research question for their investigation. The student is able to make an attempt with writing a plan for their investigation. The student is able to make some comments on how well their investigation worked. | You are able to suggest a research question for your investigation. You are able to make an attempt with writing a plan for your investigation. You are able to make some comment on how well your investigation worked. |
| **3-4** | The student is able to suggest a reasonable research question for their investigation. The student is able to write a mostly workable plan for their investigation, showing some understanding of fair testing. The student is able to make mostly reasonable comments on how well their investigation worked and some suggestions on how they could improve their investigation. | You are able to suggest a reasonable research question for your investigation. You are able to write a mostly workable plan for your investigation, showing some understanding of fair testing. You are able to make mostly reasonable comments in your evaluation about how well your investigation worked and some suggestions on how you could improve your investigation. |
| **5-6** | The student is able to suggest a suitable research question for their investigation and make a prediction for what results they might obtain. The student is able to write a workable plan for an investigation, showing good understanding of fair testing. The student is able to make relevant comments on how well their investigation worked and how they could improve their investigation. | You are able to suggest a suitable research question for your investigation and make a prediction for what results you might obtain. You are able to write a workable plan for this investigation, showing good understanding of fair testing. You are able to make relevant comments in your evaluation about how well your investigation worked and how you could improve your investigation. |

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| **Criterion E – Processing Data** | | |
| **Achievement Level** | Descriptor | Task-Specific Descriptor |
| **0** | The student does not reach a standard described by any of the descriptors below. | You do not reach a standard described by and of the descriptors below. |
| **1-2** | The student is able to collect some data from an experiment. The student is able to present the data in a simple results table that has been constructed for them, and make some attempt to draw a simple type of graph. The student attempts to comment on the relationships in the data but probably in a very limited way. The student attempts to draw a conclusion, but it is likely does not show a proper interpretation of the data. | You are able to collect some data about how different conditions affect the reaction between a bath bomb and an acid. You are able to present this data in a simple results table, and make some attempt to draw a simple type of graph. You attempt to comment on the relationships in the data but in a very limited way. You attempt to draw a conclusion about which conditions made the reaction between the acid and the bath bomb go the fastest but your conclusion likely does not show a proper interpretation of the data. |
| **3-4** | The student is able to collect a considerable amount of data using appropriate units. The student is able to make a reasonable effort to present their data in a suitable table, and draw suitable graphs or charts. The student is able to describe almost correctly the relationship shown in the data from the experiment. The student is able to draw a conclusion generally consistent with the interpretation of the data. | You are able to collect a considerable amount of data about how different conditions affect the reaction between a bath bomb and an acid. You are able to make a reasonable effort to present this data in a suitable results table, and draw a suitable graph. You are able to describe almost correctly the relationships in the data. You are able to draw a conclusion about which conditions made the reaction between the acid and the bath bomb go the fastest and this conclusion is generally consistent with the data. |
| **5-6** | The student is able to collect a considerable amount of data using appropriate units. The student is able to present their data in a suitable table, do any calculations that are necessary, and draw suitable graphs or charts. The student is able to describe correctly the relationship show in the data from the experiment. The student is able to draw a conclusion consistent with the interpretation of the data. | You are able to collect a considerable amount of data about how different conditions affect the reaction between a bath bomb and an acid. You are able to present this data in a suitable results table, and draw a suitable graph. You are able to describe correctly the relationships in the data. You are able to draw a conclusion about which conditions made the reaction between the acid and the bath bomb go the fastest and this is consistent with the interpretation of the data. |

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| **Criterion F – Attitudes in Science** | | |
| **Achievement Level** | Descriptor | Task-Specific Descriptor |
| **0** | The student does not reach a standard described by any of the descriptors below. | You do not reach a standard described by and of the descriptors below. |
| **1-2** | The student still requires some guidance to work safely and some assistance when using material and equipment. The student still requires some guidance to work responsibly in regard to the environment. The student is able to mostly work as part of a group, but sometimes they need reminders or advice on how to cooperate with others. | You still require some guidance to work safely and some assistance when using the material and equipment. You still require some guidance to work responsibly in regard to the classroom environment. You are able to mostly work as part of a group, but sometimes you need reminders or advice about how to cooperate with others. |
| **3-4** | The student is able to work safely with little guidance and with little assistance when using material and equipment. The student is able to work responsibly in regard to the environment. The student is generally able to work in a cooperative way when working as part of a group. | You are able to work safely with little guidance and with little assistance when using materials and equipment. You are able to work responsible with regard to the classroom environment. You are generally able to work in a cooperative way when working as part of a group. |
| **5-6** | The student is able to work safely and use material and equipment competently, without guidance. The student is able to work responsible in regard to the environment. The student is able to cooperate with others when working as part of a group. | You are able to work safely and use material and equipment competently without guidance. You are able to work responsibly with regard to the classroom environment. You are able to cooperate with others when working as part of a group. |